UNIT 13 EXERCISES 1-5

SYSTEM OF EQUATIONS

2006A

1. **(A)** Five sandwiches cost $5 \cdot 3 = 15$ dollars and eight sodas cost $8 \cdot 2 = 16$ dollars. Together they cost $15 + 16 = 31$ dollars.

2003A

2. (B) The cost for each member is the price of two pairs of socks, \$8, and two shirts, \$18, for a total of \$26. So there are $2366/26 = 91$ members.

2013A

2. **Answer (C):** The softball team could only have scored twice as many runs as their opponent when they scored an even number of runs. In those games their opponents scored

$$\frac{2}{2}+\frac{4}{2}+\frac{6}{2}+\frac{8}{2}+\frac{10}{2}=15 \text{ runs.}$$

In the games the softball team lost, their opponents scored

$$(1+1)+(3+1)+(5+1)+(7+1)+(9+1)=30 \text{ runs.}$$

The total number of runs scored by their opponents was $15 + 30 = 45$ runs.

2010B

3. **Answer (E):** The cost of an individual ticket must divide 48 and 64. The common factors of 48 and 64 are $1, 2, 4, 8$, and 16. Each of these may be the cost of one ticket, so there are 5 possible values for x.

2012B

3. **Answer (D):** Let h be the number of holes dug by the chipmunk. Then the chipmunk hid $3h$ acorns, while the squirrel hid $4(h-4)$ acorns. Since they hid the same number of acorns, $3h = 4(h-4)$. Solving gives $h = 16$. Thus the chipmunk hid $3 \cdot 16 = 48$ acorns.

2014B

4. **Answer (B):** Let a muffin cost m dollars and a banana cost b dollars. Then $2(4m+3b) = 2m+16b$, and simplifying gives $m = \frac{5}{3}b$.

2007B

4. **Answer (B):** Because 3 bananas cost as much as 2 apples, 18 bananas cost as much as 12 apples. Because 6 apples cost as much as 4 oranges, 12 apples cost as much as 8 oranges. Therefore 18 bananas cost as much as 8 oranges.

2004B

5. **(A)** Isabella received $10d/7$ Canadian dollars at the border and spent 60 of them. Thus $10d/7 - 60 = d$, from which it follows that $d = 140$, and the sum of the digits of d is 5.